PATENT ABSTRACTS OF JAPAN

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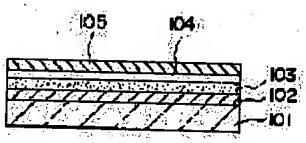
(54) FUNCTIONAL ELEMENT AND ACTUATOR

(57)Abstract:
PROBLEM TO BE SOLVED: To provide a functional element which has the large interface area and has high durability of an interface by forming a three-dimensional co-continuous micro phase separating structure of a semiconductive or conductive organic high polymer chain and an ion conductive organic high polymer chain, and using a high polymer mold chemically bonded on the interface.
SOLUTION: A material by bonding a light electric charge generating or carrier transporting molecular structure in a pendant shape in a principal chain or as a side chain of an electrically inactive high polymer chain, can be cited as a semiconductive or conductive organic high polymer. A conjugative high polymer may also be used. A high polymer electrolyte type ion conductor can be cited as an ion conductive high polymer. A phase separating film 103 is formed by applying a dibrock copolymer of polyaniline (basic emeraldin)- polyethylene oxide on a transparent electrode 102 formed on a glass substrate 101. A carbon electrode 105 is arranged on this through an electrolyte phase 104. An electrochromic element manufacture in this way has a high response speed.



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